

The Larva of Chauliodes.

I have never seen more than two specimens of the larva of the genus *Chauliodes*; one was taken in the spring of 1871, the other Oct. 21, 1877. The first one was found in an oval cavity under a stone in moist sand, and was preparing to pupate. It changed to a pupa two days afterwards; I therefore had but little opportunity to note its habits, but even those two days in which something might be learned of the habits of an active larva in its native element, availed nothing in this instance. The larva was already in a semi-torpid condition, and moved very little. When disturbed, it would move by thrusting forward its head and thorax and contracting its abdomen, reminding one of the movements of an earth-worm. I did not suspect that I had a larva whose field for active operation was the water, nor did I know that it was so near its pupal change. I took it to be some sluggish larva that lived on the land, and, after vainly endeavoring to get it to feed, I left it to its own devices, and within the time mentioned it pupated. In the second day of its pupal condition it worked its way into some earth with which I provided it. It must have done this by wriggling and boring with its head, for the legs, though free, have but very little motion, not enough to be available in such work. On the morning of the twelfth day from its pupation it appeared at the mouth of the gallery which it had made, and before evening the imago was developed, and proved to be *Chauliodes pectinicornis*.

I presume that the second specimen is of the same species, but possibly it is different. I netted it while dredging for Tritons, and have it now alive. Having provided it with suitable quarters I hope to rear it. I have found it an active and interesting insect. Its movements in the water, other than by walking, are always backwards, and are performed by a downward and forward sweep of the tail. The larva will propel itself in this manner at a good rate of speed. Sometimes when it is resting near the surface of the water, lazily drifting about, or resting upon some object in the water, apparently the most sluggish of insects, if a slight stir is given to the water near it,

two or three smart strokes of its tail send it to a safer region. At another time it will be singularly apathetic, and may be touched lightly without alarming it. I have fed it every day with two or three house flies, securing them by the legs with forceps, and holding them to the larva; it will generally seize them at once, but if the position in which they are presented allows them to touch the larva before it has seized them, the larva will back off from them with a stroke or two of the tail. I have known it to seize a fly by a leg or a wing and hold it, but it prefers to take them by the body, and once secured there is no escape.

An extended description is not desirable in this place, but a short synopsis of its characteristics will enable any observer to recognize the larva.

Each of the two specimens that I have mentioned was about thirty-five millimetres long, rather slender, narrowing very moderately from the middle of the body to the head, and more strongly in the opposite direction to a narrow final segment. The head is large and prominent, the body moderately flattened and somewhat appressed. The mandibles are rather large and strong, nearly straight and strongly toothed on the inner edge at the tip. The mandibles are usually widely extended when the larva is walking about at the bottom of the vessel. On each side of each segment after the thoracic one, there is a slender whitish filament, which is a little longer than the body is wide at its widest part. From the posterior edge of the terminal segment there arise two filaments, contiguous at their base, long, blackish, very contractile, and rather thicker than those of the sides. These filaments are undoubtedly respiratory organs, and are usually directed upwards, so that their tips reach the surface of the water. There is a long, stout, bifurcated pro-leg just beneath these filaments. The color of the head is chestnut brown; that of the body rather light brown, with a black interrupted medio-dorsal line, and, on each side, a much narrower and more obscure similar line. The legs are rather stout, of moderate length, and honey yellow.

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